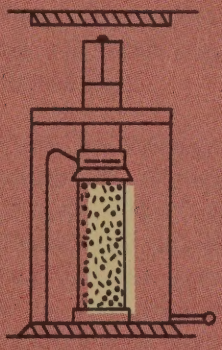
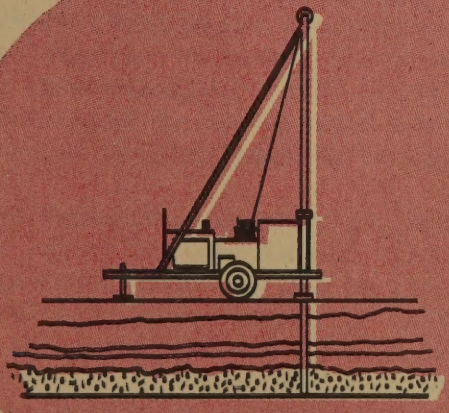
STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

RAYMOND T. SCHULER, COMMISSIONER

SOIL MECHANICS BUREAU





TEST WELL REPORT
PROPOSED COMFORT STATION
I-508;
WORCESTER-E. WORCESTER
CONTRACT D95277
OTSEGO COUNTY
PIN: 9357.12.211

JUNE 1977

SM 238b (1/73)

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

DATE May 23, 1977

SUBJECT TEST WELL CONSTRUCTION REPORT
PROPOSED COMFORT STATION
I-508; WORCESTER-EAST WORCESTER
D95277; PIN: 9357.12.211; OTSEGO COUNTY

FROM A. Yatsevitch, Assistant Engineering Geologist

TO E. M. Moody, Senior Soils Engineer

The pre-construction meeting for the subject project was held on January 12, 1977, in the Region 9 offices at 44 Hawley Street, Binghamton. The full content of the meeting is covered in the pertinent notes thereof maintained by the Region. The points of interest relating to the construction of the two wells were discussed between Mr. Thomas Tully (Contractor), Mr. Harry Carlson (Regional Construction Supervisor), Mr. A. Boone (Project E.I.C.) and this writer. Final locations for the wells were obtained from the Regional landscape architects, arrangements were made for the Region to stake out those locations and a proposed starting date of January 17 was agreed upon. On January 17 a meeting was held at the project site with Mr. Leo Kay (driller), and Mr. Boone. The cold weather and drifted snow delayed access to the site. The remainder of the week was used toward getting the drilling rig and supporting equipment onto the site and in position to start drilling.

Well No. 1 was started on Friday, January 21, 1977. A roller bit and reamer were used in overburden to approximately 60 feet at which point a detergent mix was used as drilling fluid to retain air pressure and keep the hole open. Top of rock was encountered at approximately 167 feet. The hole was continued to 178 feet before sound rock was encountered. On Monday, January 24, the casing was placed and seated into rock. Drilling was started into rock and the casing was again reseated due to excessive clay apparently washing in from above the interface through the fractured zone at the top of rock. Drilling was continued into rock on January 25 to a depth of 285 feet where total water production from three water zones was estimated at over 35 gallons per minute. The hole was continued to 295 feet total depth to provide a sedimentation "tail" below the water producing zones. The well was developed by pressurized air until the water cleared and the casing was capped pending pumping tests.

On Wednesday, January 26, Well No. 2 was started. Drilling procedure using a roller bit and reamer with a detergent medium was used in the overburden to top of rock at 152 to 155 feet. Sound rock was reached at approximately 182 feet. On January 27 casing was pushed into the hole and seated into the rock until refusal. The hole was progressed into rock through two water zones to 215 feet where output was estimated at over 40 gallons per minute. On January 28 attempts were made to clear the water using compressed air but, as in Well No. 1, excessive clay "slick" was present from above the rock interface. The casing was reseated again gaining another 1.5 ft. with the shoe seated at approximately 180.5 feet. The well was subsequently surged with compressed air until the "slick" disappeared and the water was reasonably clear. Pumping tests for the two wells were scheduled for Monday, January 31, 1977.

NYSDOT
Library
50 Wolf Road, POD 34
Albany, New York 12232

Pumping tests on Well No. 1 were concluded the morning of February 1, and on Well No. 2 on February 2, 1977. Water samples were taken by this writer at the conclusion of each test and delivered to the D.O.H. laboratories in Albany for quality analysis. The tabulations of the pumping tests and the results of the water analyses are attached, as are the well logs compiled by this writer from drilling chips recovered by compressed air.

AY:sd
Attachments

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 1 OF 1)

LAB ACCESSION NO: 00618 YR/MO/DAY/HR SAMPLE REC'D: 77/02/01/09

REPORTING LAB: 01 CENTRAL AVE. LAB
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 3873 COUNTY: OTSEGO
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: I88 REST AREA SECT-12 EAST WORCESTER

EXACT SAMPLING POINT: WELL NO.1
TYPE OF SAMPLE: 16 PRIVATE SUPPLY, MISCELL.
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/01/04
REPORT SENT TO: CO (2) RO (0) LPHE (1) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
026800	STD.PLATE COUNT 48 HR /ML		2.	
027000	COLIF. MF COL/100ML		1.	LT

DATE COMPLETED: 2/08/77

These results indicate that the water was..... of a satisfactory sanitary quality when the sample was collected.

Sanitary Engineer

NEW YORK STATE DEPT. OF HEALTH
ONEONTA DISTRICT OFFICE
P.O. BOX 459 UPPER WEST ST.
ONEONTA NEW YORK 13820

SUBMITTED BY: HOFMANN

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

LAB ACCESSION NO: 00211 YR/MO/DAY/HR SAMPLE REC'D: 77/02/01/11

REPORTING LAB: 10 GRIFFIN LAB
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 3873 COUNTY: OTSEGO
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: I88 REST AREA SECT 12, E WORCESTER

EXACT SAMPLING POINT: WELL #1
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/01/04
REPORT SENT TO: CO (1) RO (0) LPHE (1) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
00100	COLOR (APPARENT)		9.	
00501	NITROGEN, AMMONIA	MG/L	0.35	
00709	NITROGEN, NITRITE	MCG/L	5.	LT
00801	NITROGEN,NITRATE&NITRITE	MG/L	0.2	LT
01001	CHLORIDE	MG/L	26.	
01101	HARDNESS, TOTAL AS CACO3	MG/L	75.	
01501	ALKALINITY,M'ORANGE,	MG/L	106.	
01900	PH (LABORATORY)		8.2	
06501	C.O.D.	MG/L	4.	LT
10001	IRON	MG/L	0.44	
10201	MANGANESE	MG/L	0.08	
10701	SODIUM	MG/L	35.	
00200	TURBIDITY, N.T.U. NEPHEL.		5.3	

DATE COMPLETED: 2/24/77

DEPUTY CHIEF ENGINEER,TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: WP HOFMAN

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 2 OF 2)

LAB ACCESSION NO: 00211 YR/MO/DAY/HR SAMPLE REC'D: 77/02/01/11

REPORTING LAB: 10 GRIFFIN LAB
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 3873 COUNTY: OTSEGO
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: I88 REST AREA SECT 12, E WORCESTER

EXACT SAMPLING POINT: WELL #1
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/01/04
REPORT SENT TO: CO (1) RO (0) LPHE (1) LHO (0) FED (0) CHEM (0)

	PARAMETER	UNIT	RESULT	NOTATION
100300	ODOR, COLD		3,SULF	

DATE COMPLETED: 2/24/77

DEPUTY CHIEF ENGINEER,TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: WP HOFMAN

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 1 OF 1)

LAB ACCESSION NO: 00727 YR/MO/DAY/HR SAMPLE REC'D: 77/02/03/13

REPORTING LAB: 01 CENTRAL AVE. LAB
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 3873 COUNTY: OTSEGO
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: REST AREA I88 SECT 12

EXACT SAMPLING POINT: WELL NO.2
TYPE OF SAMPLE: 01 PWS, UNCHLOR.
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/02/18
REPORT SENT TO: CO (0) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
026800	STD.PLATE COUNT 48 HR /ML		1.	LT
027000	COLIF. MF COL/100ML		1.	LT

DATE COMPLETED: 2/07/77

These results indicate that the water was..... of a satisfactory sanitary quality when the sample was collected.

Sanitary Engineer

NEW YORK STATE DEPT. OF HEALTH
ONEONTA DISTRICT OFFICE
P.O. BOX 459 UPPER WEST ST.
ONEONTA NEW YORK 13820

SUBMITTED BY: HOFMANN

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 1 OF 2)

LAB ACCESSION NO: 00232 YR/MO/DAY/HR SAMPLE REC'D: 77/02/03/11

REPORTING LAB: 10 GRIFFIN LAB
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: 00 NY GAZETTEER NO: 3873 COUNTY: OTSEGO
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: I88 REST AREA SEC. 12, E. WORCESTER

EXACT SAMPLING POINT: WELL #2
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/03/11
REPORT SENT TO: CO (1) RO (0) LPHE (1) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
000100	COLOR (APPARENT)		12.	
000501	NITROGEN, AMMONIA	MG/L	0.35	
000709	NITROGEN, NITRITE	MCG/L	5.	
000801	NITROGEN,NITRATE&NITRITE	MG/L	0.2	LT
001001	CHLORIDE	MG/L	22.	
001101	HARDNESS, TOTAL AS CACO3	MG/L	80.	
001501	ALKALINITY,M'ORANGE,	MG/L	102.	
001900	PH (LABORATORY)		8.1	
006501	C.O.D.	MG/L	13.	
010001	IRON	MG/L	0.16	
010201	MANGANESE	MG/L	0.07	
010701	SODIUM	MG/L	30.3	
100200	TURBIDITY, N.T.U. NEPHEL.		1.1	

DATE COMPLETED: 5/11/77

DEPUTY CHIEF ENGINEER,TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: W.HOFMANN

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 2 OF 2)

LAB ACCESSION NO: 00232 YR/MO/DAY/HR SAMPLE REC'D: 77/02/03/11

REPORTING LAB: 10 GRIFFIN LAB
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: 00 NY GAZETTEER NO: 3873 COUNTY: OTSEGO
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: 188 REST AREA SEC. 12, E. WORCESTER

EXACT SAMPLING POINT: WELL #2
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/03/11
REPORT SENT TO: CO (1) RO (0) LPHE (1) LHO (0) FED (0) CHEM (0)

	PARAMETER	UNIT	RESULT	NOTATION
00300	ODOR, COLD		1,VEGET	

DATE COMPLETED: 5/11/77

DEPUTY CHIEF ENGINEER,TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: W.HOFMANN

TULLY DRILLING COMPANY, INC.

Poyntelle, Pa. 18454

RECORD OF WELL PUMPING TEST

Sheet No. 1 of 2

Date 1-31-77 2-1-77

OWNER N. Y. S. D. O. T.
(Name and Address)

ENGINEER or [redacted] A. H. Boone

WELL No. 1

WELL NO. 1 LOCATION: Otsego Co. I-88 Contract No. D95277

TEST RESULTS: Static level 31 ft.

TIME	GPM	WATER LEVEL (FEET BELOW REF. PT.)	DRAWDOWN (FEET)	* WATER
4:45 PM	25	31	--	turbid
4:47	25	33	2	"
4:51	25	33	2	"
4:56	25	33	2	"
5:15	25	33	2	"
		Increased GPM to 40.8 at 5:15 PM		
5:18	40.8	35	4	"
5:30	40.8	35	4	clear
6:00	40.8	35	4	"
6:30	40.8	35	4	"
7:00	40.8	35	4	"
7:30	40.8	35	4	"
8:00	40.8	35	4	"
8:30	40.8	35	4	"
9:00	40.8	35	4	"
9:30	40.8	35	4	"
10:00	40.8	35	4	"
10:30	40.8	35	4	"
11:00	40.8	35	4	"
11:30	40.8	35	4	"
12:00	40.8	35	4	"
12:30 AM	40.8	35	4	"
1:00	40.8	35	4	"
1:30	40.8	35	4	"
2:00	55.5	38	7	"
2:30	55.5	38	7	"

Increased GPM at 1:45 to 55.5

* NOTE WHETHER WATER IS CLEAR OR TURBID

TULLY DRILLING COMPANY, INC.

Poyntelle, Pa. 18454

RECORD OF WELL PUMPING TEST

Date 2-1-77

ER N. Y. S. D. O. T.
(Name and Address)

GINEER
OR
ITECT A. H. Boone

Well No. 1

.. NO. 1 LOCATION: Otsego Co. I-88 Contract no. D9 277

T RESULTS:

TIME	GPM	WATER LEVEL (FEET BELOW REF. PT.)	DRAWDOWN (FEET)	* WATER
		Continued from sheet 1		
3:00 AM	55.5	38	7	clear
3:30	55.5	38	7	"
4:00	55.5	38	7	"
4:30	55.5	38	7	"
4:45	55.5	38	7	"

* NOTE WHETHER WATER IS CLEAR OR TURBID

TULLY DRILLING COMPANY, INC.

Poyntelle, Pa. 18454

RECORD OF WELL PUMPING TEST

Sheet No: 1 of 1

Date 2-2-77

NER N. Y. S. D. O. T.

(Name and Address)

GINEER or [redacted] A. H. Boone

WELL No. 2

L NO. 2 LOCATION: Otsego Co. I-88 Contract No. D95277

T RESULTS: Static level 27 ft.

TIME	GPM	WATER LEVEL (FEET BELOW REF. PT.)	DRAWDOWN (FEET)	* WATER
6:20 AM	42.3	27	--	clear
6:22	42.3	28	1	"
6:30	42.3	29	2	"
7:00	41.5	29	2	"
7:30	40.8	29	2	"
8:00	40.8	29	2	"
8:30	40.8	29	2	"
9:00	40.8	29	2	"
9:30	40.8	29	2	"
10:00	40.8	29	2	"
10:30	40.8	29	2	"
11:00	40.8	29	2	"
11:30	40.8	29	2	"
12:00 NOON	40.8	29	2	"
12:30	40.8	29	2	"
1:00	40.8	29	2	"
1:30	60	Increased GPM at 1:00 to 60 29.5	2.5	"
2:00	60	29.5	2.5	"
2:30	60	29.5	2.5	"
3:00	60	29.5	2.5	"
3:30	60	29.5	2.5	"
4:00	60	29.5	2.5	"
4:30	60	29.5	2.5	"
5:00	60	29.5	2.5	"
5:30	60	29.5	2.5	"
6:00	60	29.5	2.5	"
6:20	60	29.5	2.5	"

* NOTE WHETHER WATER IS CLEAR OR TURBID

PIN: 9357.12.311
WELL NO. 1

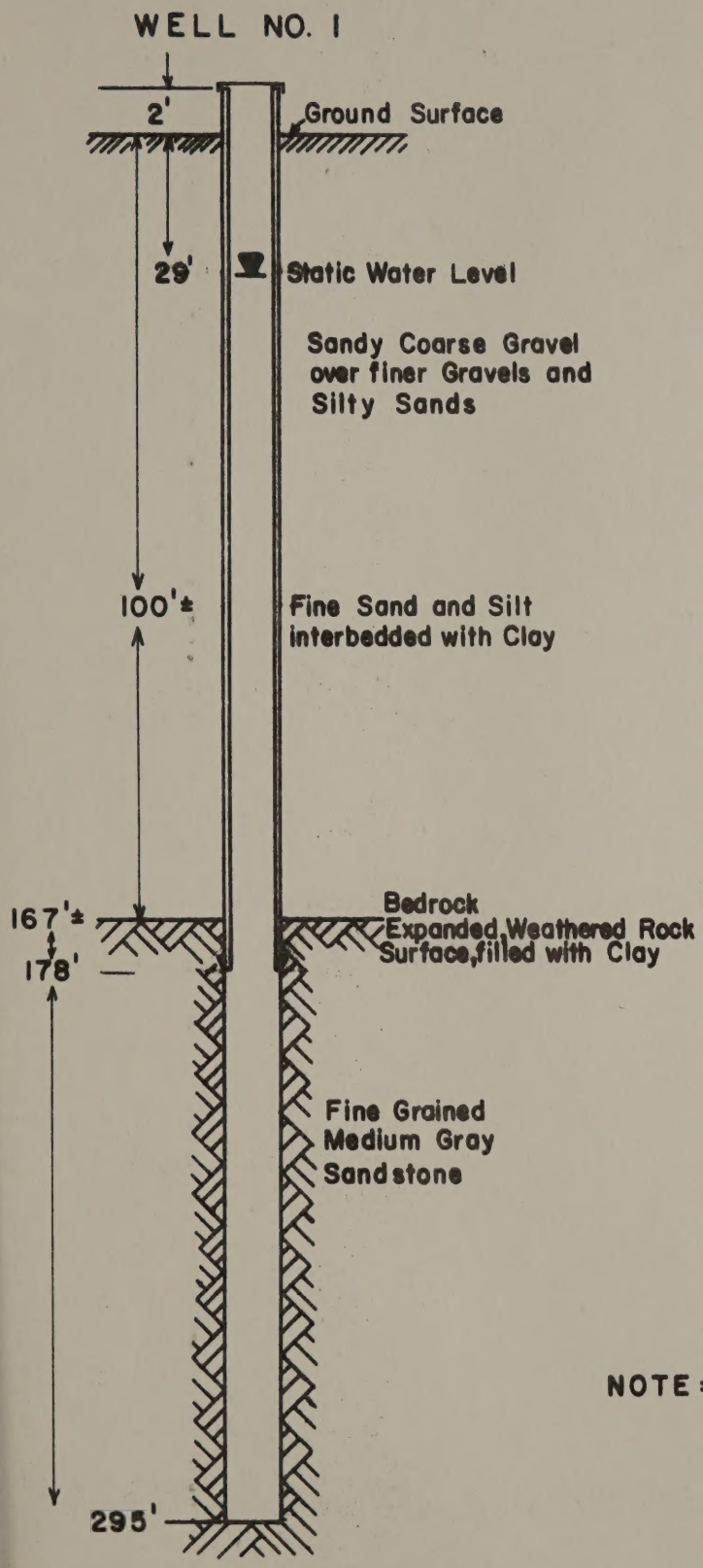
0- 10'	Sandy coarse gravel. Some silt.
10- 20'	Silty fine sand. Some coarse sand. Trace gravel.
20- 30'	Sandy fine gravel. Some coarse sand. Some silt.
30- 40'	Silty coarse sand. Some fine sand Detergent agent started.
40- 50'	Sandy fine gravel. Some silt.
50- 60'	Sandy fine gravel. Some silt.
60- 70'	Silty fine to coarse sand.
168'	Silty fine sand. Some clay.
174'	Top of rock. Fine grained medium & dark gray sandstone.
180'	Fine grained medium gray sandstone.
190'	Fine grained medium gray sandstone. Trace pyrite.
200'	Fine grained medium gray sandstone. Somewhat more pyrite.
210'	Fine grained medium gray sandstone. Trace pyrite.
220'	Fine grained medium gray sandstone. Trace mica.
230'	Fine grained medium gray sandstone. Somewhat phyllitic texture.
240'	Fine grained medium-light gray quartzitic sandstone.
250'	Fine grained medium gray sandstone. Somewhat phyllitic texture.
260'	Fine grained medium gray sandstone.
270'	Fine grained medium-light gray sandstone. Somewhat phyllitic texture.
280'	Fine grained medium gray sandstone. Somewhat phyllitic texture.
290-295'$\pm$	Fine grained medium gray sandstone.

-End-

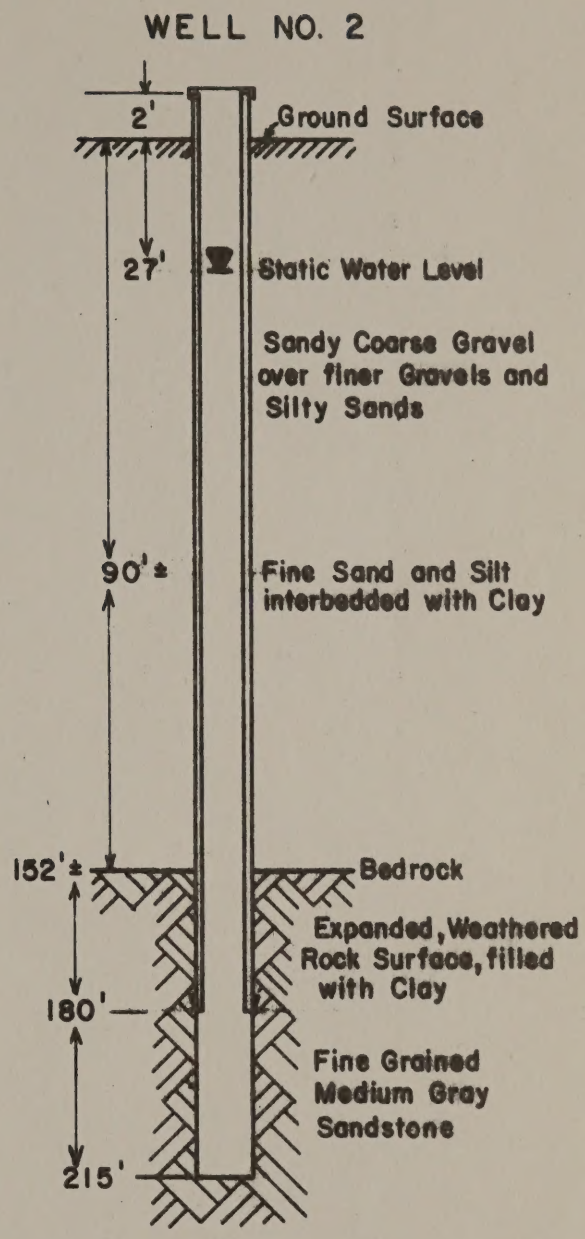
PIN: 9357.12.311
WELL NO. 2

0-10'	Sandy coarse gravel. Some silt.
10-20'	Fine sand. Some medium sand.
20-30'	Silty fine sand.
	(Detergent agent started)
155'±	Pipe sample. Fine sandy gravel. Some clay. Top of rock.
178'±	Pipe sample. Fine to medium sand. Some clay.
	(182' - solid rock)
to 215'	Fine grained, medium to dark gray sandstone. Occassional pyrite.

-End-



"P" LINE STATION
80+24 509' Lt.



"P" LINE STATION
81+07 554' Lt.

NOTE: All depths shown are referenced to Ground Surface.
No scale applies to these Well Profiles.

TEST WELLS FOR PROPOSED COMFORT STATION

I-508; WORCESTER - EAST WORCESTER
OTSEGO COUNTY
P.I.N. 9357.12.311

01615
LRI